

What is Claimed is:

1. Radiation source for use in endovascular radiation treatment which comprises one or more treating elements (seeds) comprising a radiation emitting element and means for containment of said radiation emitting element, wherein said seeds are comprised in an elongated container having at least one deflection site.
2. Radiation source of claim 1, wherein the elongated container is a hollow cylinder.
3. Radiation source of claims 1 and 2, wherein the container is made from a highly flexible material, preferably a Ni-Ti-alloy or aluminum alloy, more preferably Nitinol or Tinal alloy BB.
4. Radiation source of claims 1 to 3, wherein the one or more deflection site(s) comprise perforation patterns, preferably laser perforations of the container.
5. Radiation source of claims 1 to 4, wherein the one or more deflection site(s) comprise multiple helical openings in the tube.
6. Radiation source of claims 1 to 5, wherein the seeds comprise rounded or spherical end caps on one or both ends.
7. Radiation source of claims 1 to 6, wherein the seeds are separated from each other by at least one spacer, preferably in form of a sphere.
8. Radiation source of claims 1 to 5, wherein the seeds are spaced from each other and fixed to the inner wall of the container.

9. Radiation source of claims 1 to 8, wherein said means for containment is a metallic capsule.
10. Radiation source of claim 1 to 9, wherein the radiation emitting element comprises any α -, β - and/or γ -emitting substance.
11. Radiation source of claim 10, wherein the radiation emitting element comprises one or more radioactive materials selected from the group consisting of Cs^{137} , Co^{57} , Sr^{89} , Y^{90} , Au^{198} , Pd^{103} , Se^{75} , Sr^{90} , Ru^{106} , P^{32} , Ir^{192} , Re^{188} , W^{188} and I^{125} .
12. Apparatus for endovascular radiation treatment, comprising an elongated catheter having a proximal end portion, a distal end portion and a single lumen for receiving a radiation source, optionally a guide wire and a second lumen therefore, and a radiation source which comprises one or more treating elements (seeds) comprising a radiation emitting element and means for containment of said radiation emitting element, wherein said seeds are comprised within an elongated container having at least one deflection site.
13. Apparatus of claim 12, wherein a radiation source according to claims 1 to 11 is used.
14. Apparatus of claims 12 or 13, further comprising a containment vessel for radiation protection.
15. Apparatus of claims 12 to 14, further comprising a magnetic means.
16. Apparatus of claims 12 to 15, further comprising a x-ray fluoroscopy device.
17. Method for endovascular radiation treatment comprising the steps of

- (a) directing an elongated catheter, having a proximal end portion, a distal end portion and a lumen extending therebetween for receiving a radiation source, to the selected site to be treated preferably by way of a guide wire in a separate lumen,
 - (b) introducing a radiation source into the catheter at its proximal end portion, which radiation source comprises one or more treating elements (seeds), wherein said seeds are comprised in an elongated container having at least one deflection site.
 - (c) moving said radiation source to said distal end portion preferably by way of a transfer wire,
 - (d) maintaining said radiation source at said distal end portion for a determined period of time, and
 - (e) retracting said radiation source to the proximal end portion preferably by use of a transfer wire.
18. Method of claim 17, wherein moving and/or retracting in steps (c) and/or (e) is achieved by pushing or pulling the radiation source.
19. Method of claims 17 and 18, wherein said movement in step (c) is achieved by pushing and said movement in step (e) is achieved by pulling said radiation source.
20. Method of claims 17 to 19, wherein the radiation source is linked to a transfer wire at its proximal end and moving in step (c) occurs by pushing the transfer wire into the catheter and retracting in step (e) occurs by pulling the transfer wire out of the catheter.
21. Method of claims 17 to 20, wherein a radiation source comprising a magnetic elongated container is used and movement in steps (c) and/or (e) is achieved by magnetically pushing and/or pulling the radiation source using a transfer wire comprising a magnet or using an external magnetic means.

22. Method of claims 17 to 21, wherein a radiation source according to one of claims 1 to 11 is used.

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